AQUATIC ECOSYSTEMS

Ecosystems do not exist alone. They are dependent upon each other and they all work together. There are two main types of ecosystems: aquatic and terrestrial.

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|  | **Aquatic ecosystems are those whose members depend on a water environment for survival**. They include ponds, lakes, rivers, swamps, and streams. Some can be temporary, like wetlands and flood planes; these are areas that are only wet during certain times of the year. Some of these environments can be quite surprising; certain types of algae can exist in thermal springs, where the water is almost boiling. Glaciers can also support some types of bacteria and worms. |

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| Aquatic ecosystems contain a great variety of life, ranging from algae, protozoa and bacteria to cattails, water lilies, and reeds. Fish, reptiles, and amphibians also make their homes here.  There are many differences between the types of species that inhabit different types of aquatic ecosystems. For example, **ponds tend to be still**, **low-oxygenated environments** and support such animals as carp and leeches. **Rivers and streams are fast-moving and often contain more oxygen**. They contain species that have adapted to those conditions, such as darter fish. | ! |

Lakes can be classified according to their features and one of the most common types of classification is the **trophic concept that indicates productivity or the nutrient richness of lakes**. In this concept, there are several types of lakes recognized. Oligotrophic lakes are deeper and colder, contain low concentrations of nutrients, and their overall productivity is low. Water in these lakes has good clarity, contains a lot of oxygen, but supports only small populations of fish of high quality. Eutrophic lakes are relatively shallow, characterized by reduced water clarity and oxygen concentrations, and their productivity is high..

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| . | All the features of an ecosystem are necessary to ensure sustainability. A change to any one of them will affect the entire system. For example, if the frog population in a pond increased dramatically, the snake population would increase too, but these increases would only be temporary. A pond only has enough food to support a certain number of frogs, and if this number increases too much, the food will begin to run out and the frogs will die. Then the snakes will not have enough food, and they will die too. The limit of the number of a species that an ecosystem can support is called the carrying capacity. If the carrying capacity of an ecosystem is surpassed, the ecosystem and all living things in it will suffer. |